

Amendments to the Specification:

Please replace paragraph [0010] with the following amended paragraph:

- - **Figures 2A through ~~2N~~ 2M** illustrate a process of forming an improved air gap interconnect structure. - -

Please replace paragraph [0016] with the following amended paragraph:

- - **Figures 1A and 1B** illustrate an embodiment for improving a metallization air gap structure. **Figures 2A through ~~2N~~ 2M** illustrate a process of forming an improved air gap interconnect structure. The process 100 begins in start block 102. In block 104, a first layer ILD is formed. **Figure 2A** illustrates a deposited first layer ILD. The first layer 202 may be any appropriate ILD, including SiO₂ or low-k ILDs such as carbon doped oxides (CDO) and fluorosilicate glasses (FSG). The ILD may be deposited using various well-known methods such as chemical vapor deposition (CVD), spin on deposition, etc. The ILD may be deposited directly on a substrate, or over another, previously formed, metallization layer. In block 106, the first layer 202 is patterned using a damascene process. **Figure 2B** illustrates the first layer 202 having two damascene patterned trenches 204 and 206. In block 108, a first at least one interconnect is created in the first layer. **Figure 2C** illustrates the first layer 202 having two interconnects 208 and 210 formed in it. The interconnects 208 and 210 can be created by depositing copper,

aluminum, or other appropriate metals in the ILD 202 using electroplating, EL deposition, etc. After the interconnects 208 and 210 have been formed, the ILD 202 must be cleared of excess metal and planarized using a CMP process. - -

Please replace paragraph [0034] with the following amended paragraph:

- - **Figure 5** illustrates an embodiment for forming a thick barrier layer on an ILD.

A barrier layer can act as a diffusion layer to protect an ILD, as well as filling in voids that are present in the conductive lines. A thick barrier layer may have a thickness of between 50 and 500 Angstroms (Å), which can provide superior characteristics over barrier layers typically used in air gap interconnect structures. Further, a thick barrier layer can prevent extrusion caused by weak structures found in air gap interconnect structures, because the thicker layer will have greater mechanical strength. The barrier layers 208, 210, 236, 238 and 452 as shown in **Figures 2N 2M, 4N, and 4O** illustrate using the process 500 to improve an air gap interconnect structure. - -